FIG. 1

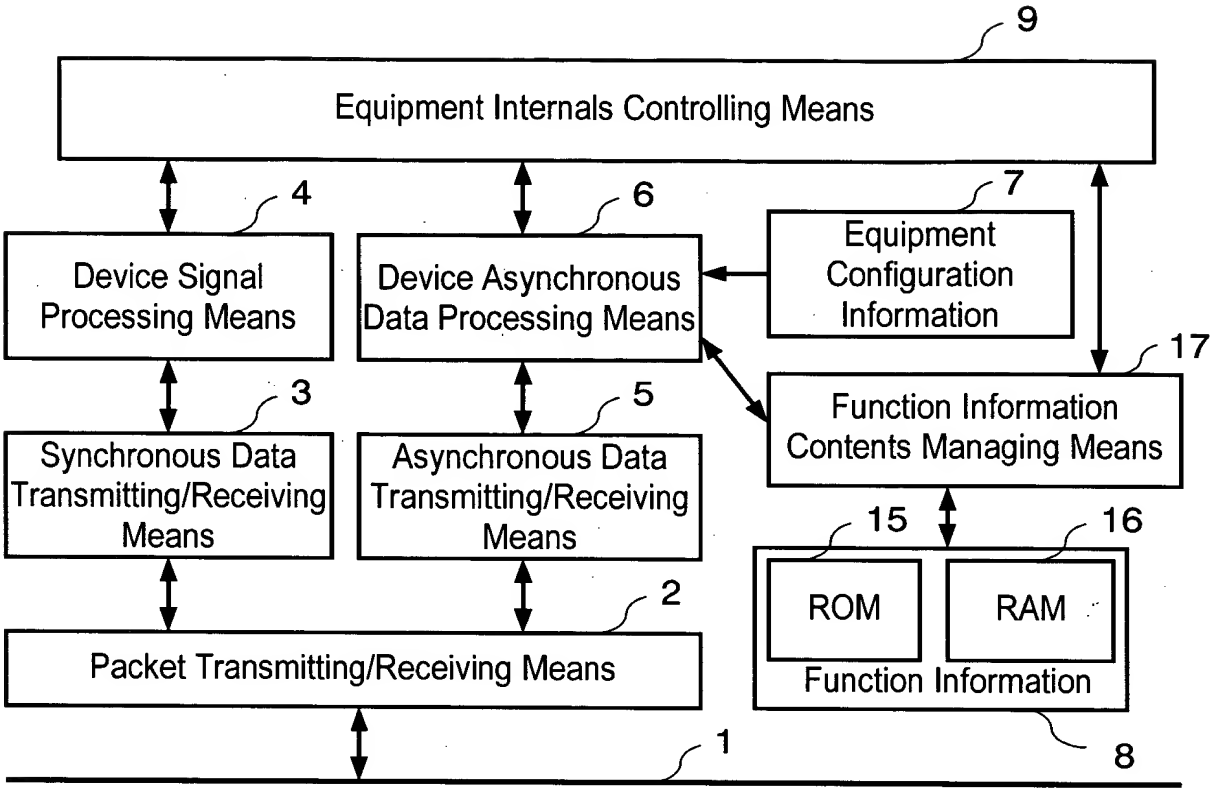

9
Equipment Internals Controlling Means
4
6
7
Device Signal Processing Means
Device Asynchronous Data Processing Means
Equipment Configuration Information
17
3
5
Function Information Contents Managing Means
Synchronous Data Transmitting/Receiving Means
Asynchronous Data Transmitting/Receiving Means
15
16
ROM
RAM
2
Packet Transmitting/Receiving Means
Function Information
1
8

FIG. 2

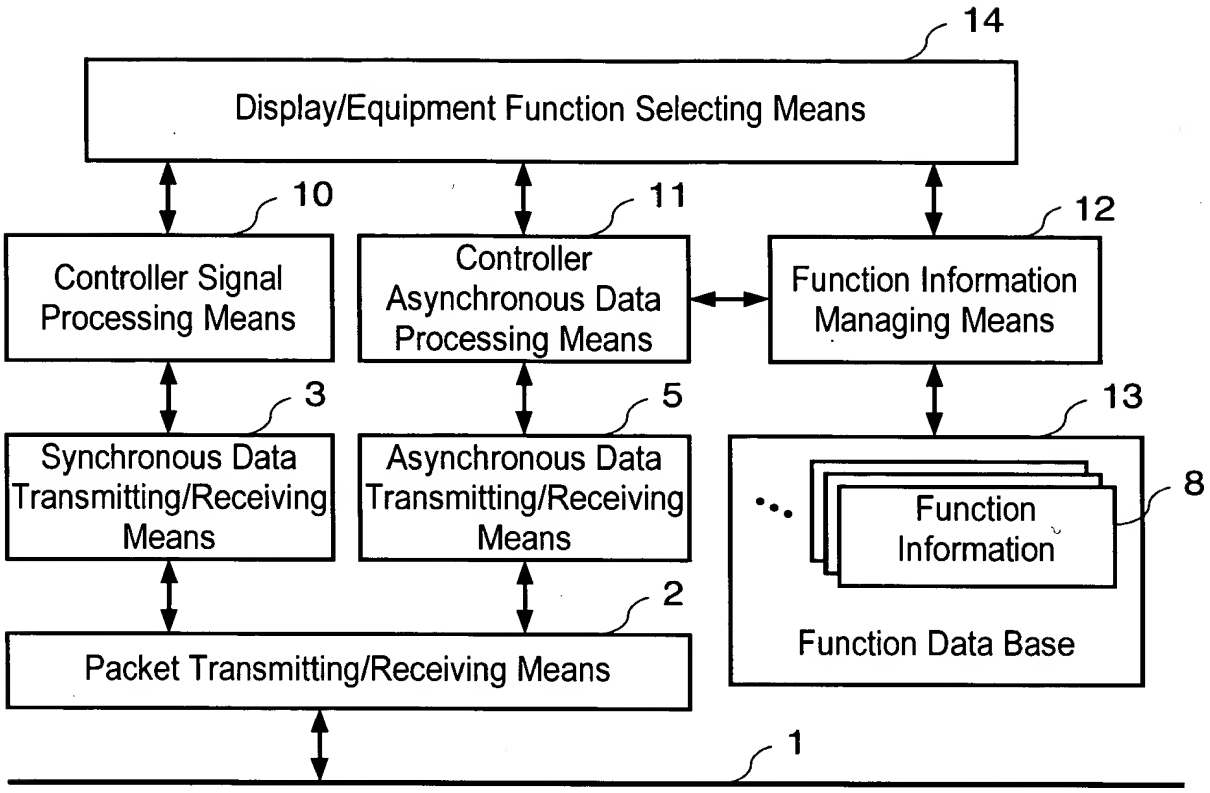

14
Display/Equipment Function Selecting Means
10
11
12
Controller Signal Processing Means
Controller Asynchronous Data Processing Means
Function Information Managing Means
3
5
13
Synchronous Data Transmitting/Receiving Means
Asynchronous Data Transmitting/Receiving Means
8
Function Information
2
Packet Transmitting/Receiving Means
Function Data Base
1

FIG. 3

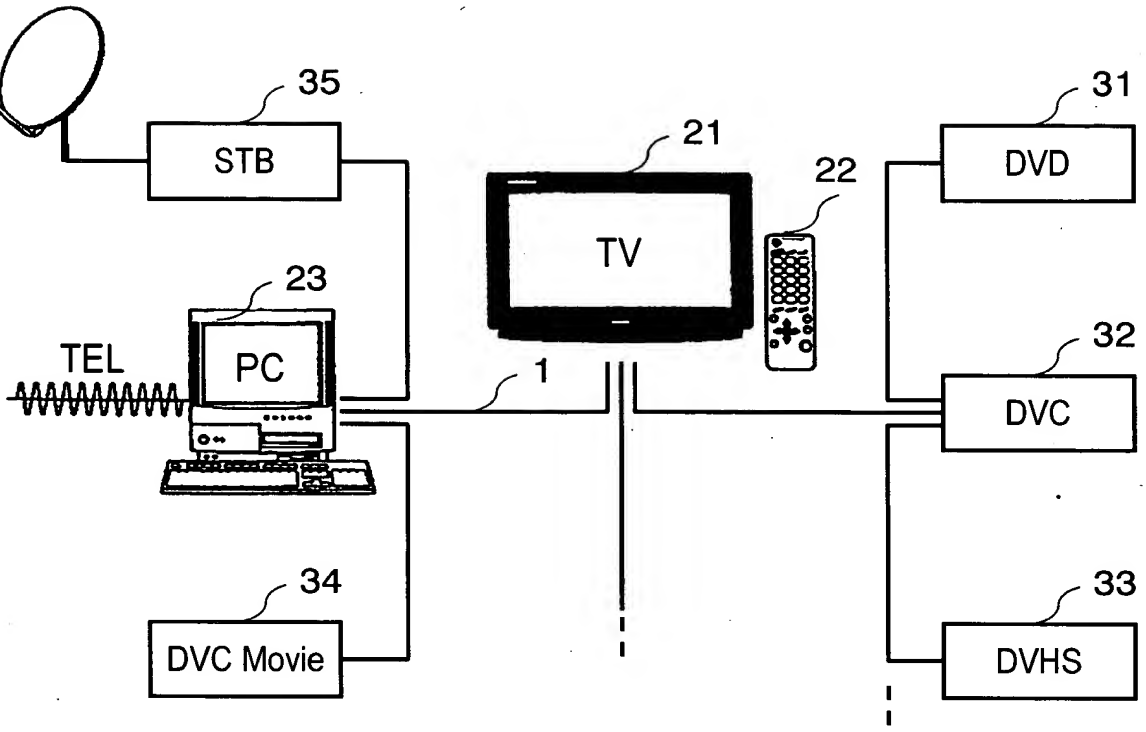


FIG. 4

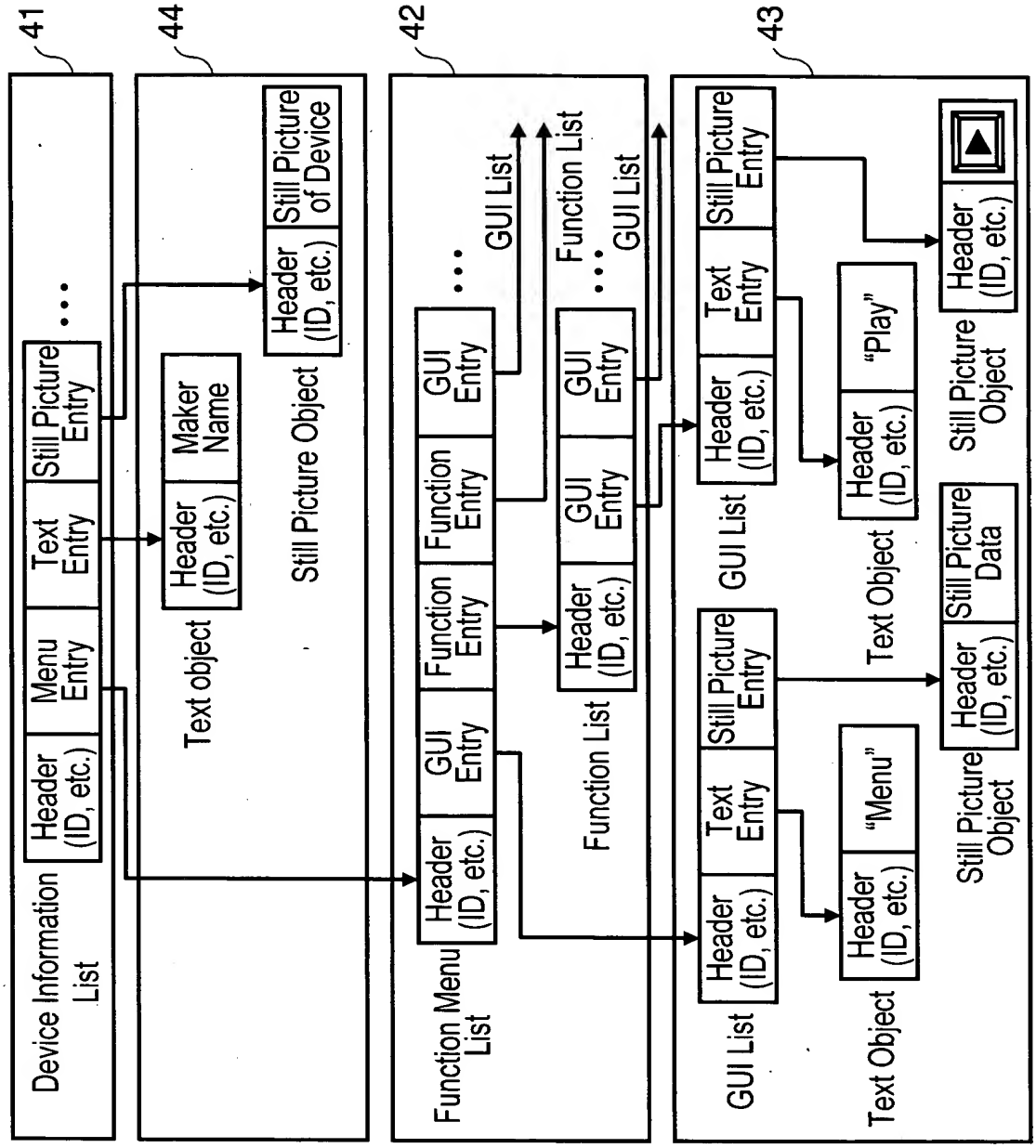

41
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Still Picture Entry
...
44
Text object
Header (ID, etc.)
Maker Name
Still Picture Object
Header (ID, etc.)
Still Picture of Device
42
Function Menu List
Header (ID, etc.)
GUI Entry
Function Entry
...
GUI List
Function List
Header (ID, etc.)
GUI Entry
...
Function List
GUI List
43
GUI List
Header (ID, etc.)
Text Entry
Still Picture Entry
Text Object
Header (ID, etc.)
"Menu"
Still Picture Object
Header (ID, etc.)
Still Picture Data
GUI List
Header (ID, etc.)
Text Entry
Still Picture Entry
Text Object
Header (ID, etc.)
"Play"
Still Picture Object
Header (ID, etc.)

FIG. 5

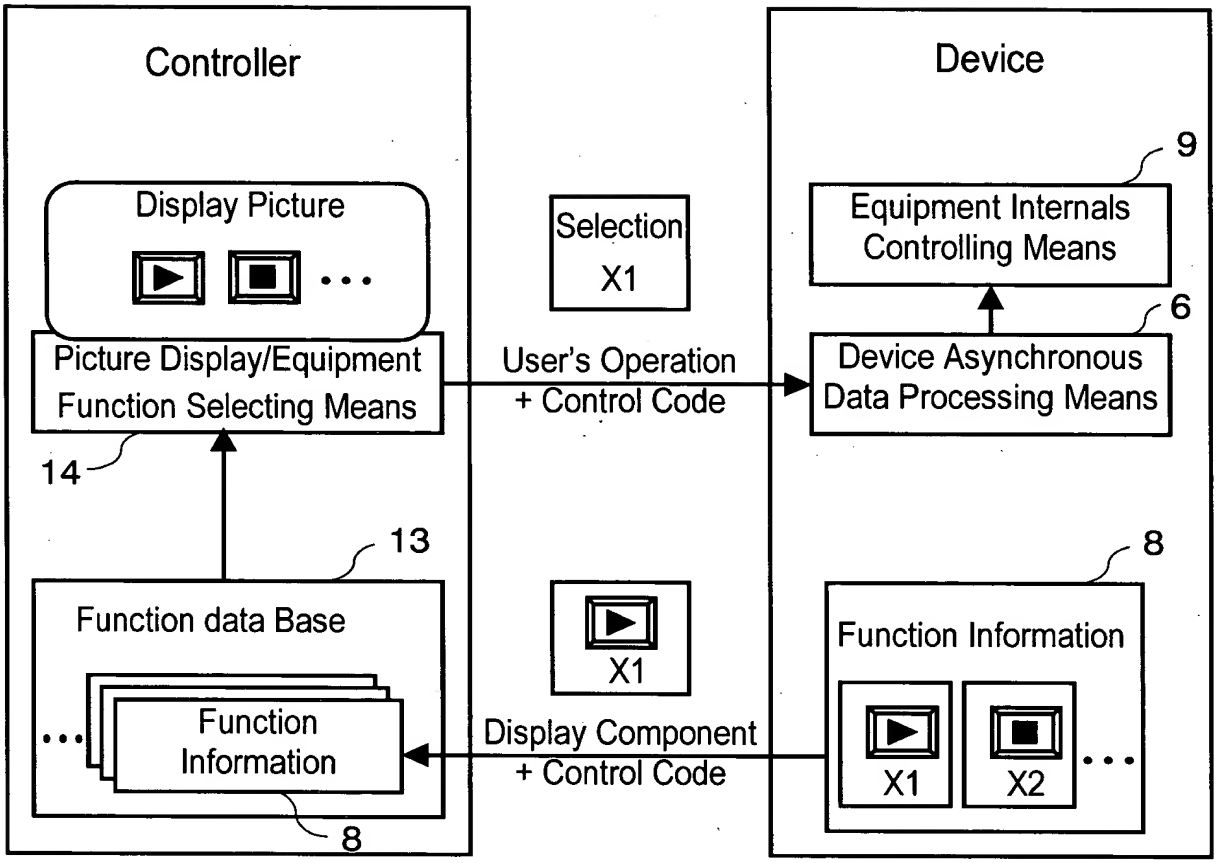

Controller
Device
Display Picture
Selection
X1
9
Equipment Internals
Controlling Means
6
Device Asynchronous
Data Processing Means
Picture Display/Equipment
Function Selecting Means
User's Operation
+ Control Code
14
13
8
Function data Base
X1
Function Information
Function
Information
Display Component
+ Control Code
X1
X2
8

FIG. 6

Header	ID	Display Component

(a) Data Read from Device

Header	User's Operation	ID of Display Component

(b)Data Transmitted to Device

FIG. 7

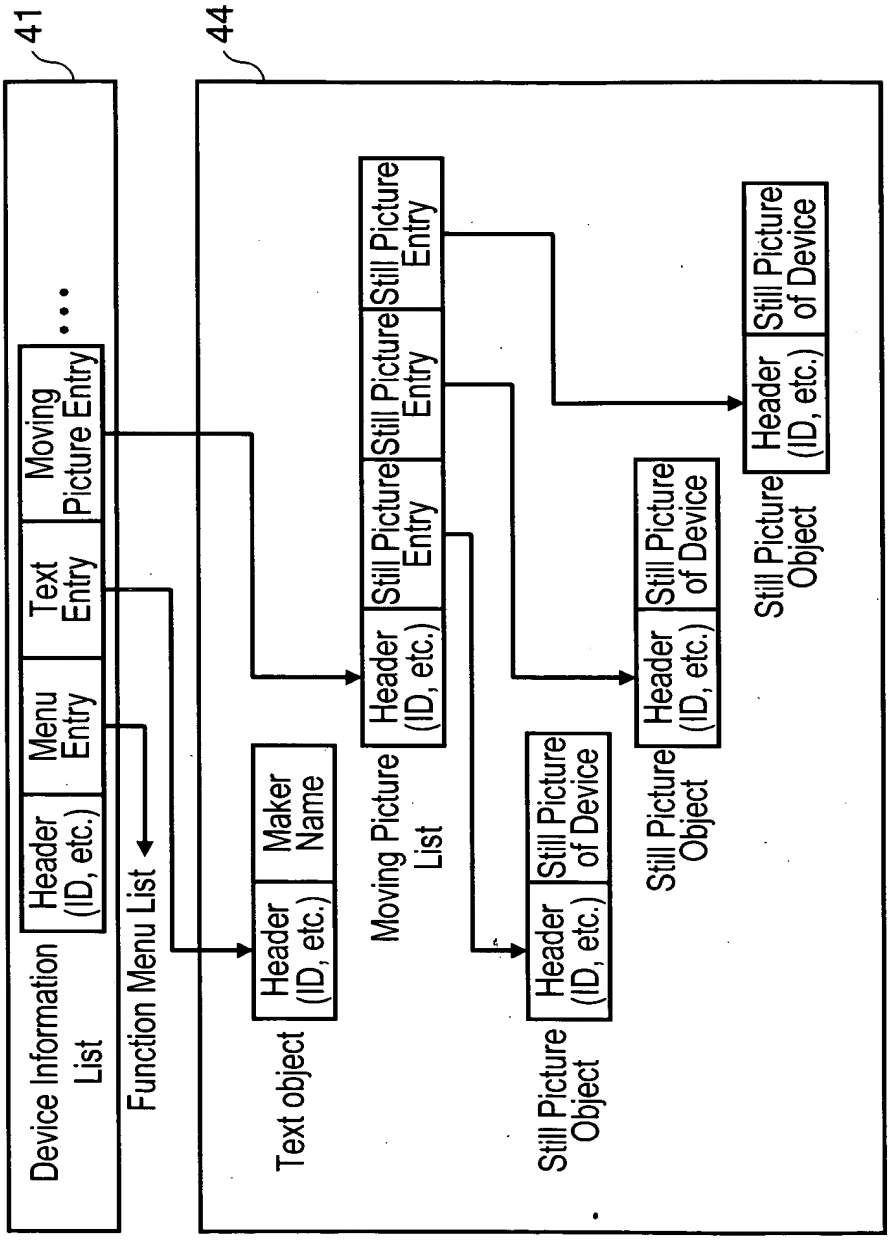

41
44
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Moving Picture Entry
...
Function Menu List
Text object
Header (ID, etc.)
Maker Name
Moving Picture List
Header (ID, etc.)
Still Picture Entry
Still Picture Entry
Still Picture Entry
Still Picture Object
Header (ID, etc.)
Still Picture of Device
Still Picture Object
Header (ID, etc.)
Still Picture of Device
Still Picture Object
Header (ID, etc.)
Still Picture of Device

FIG. 8

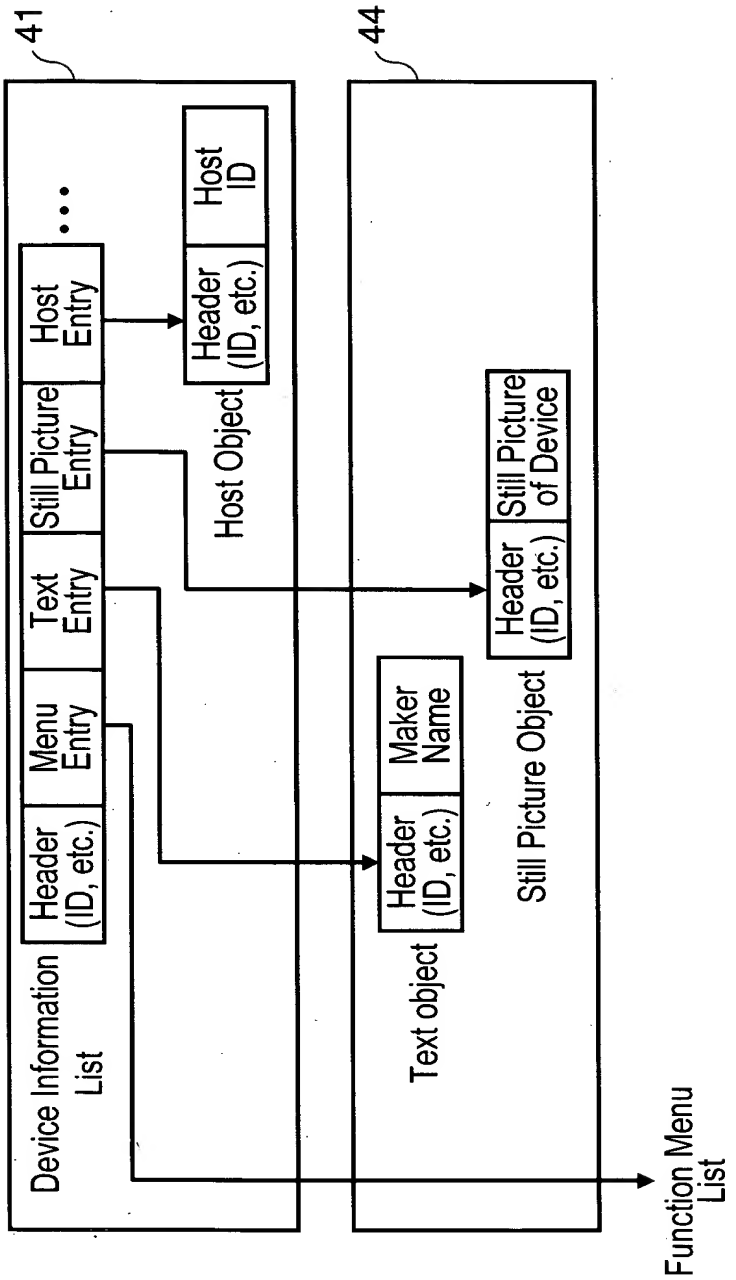

41
44
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Still Picture Entry
Host Entry
...
Host Object
Header (ID, etc.)
Host ID
Text object
Header (ID, etc.)
Maker Name
Still Picture Object
Header (ID, etc.)
Still Picture of Device
Function Menu List

FIG. 9

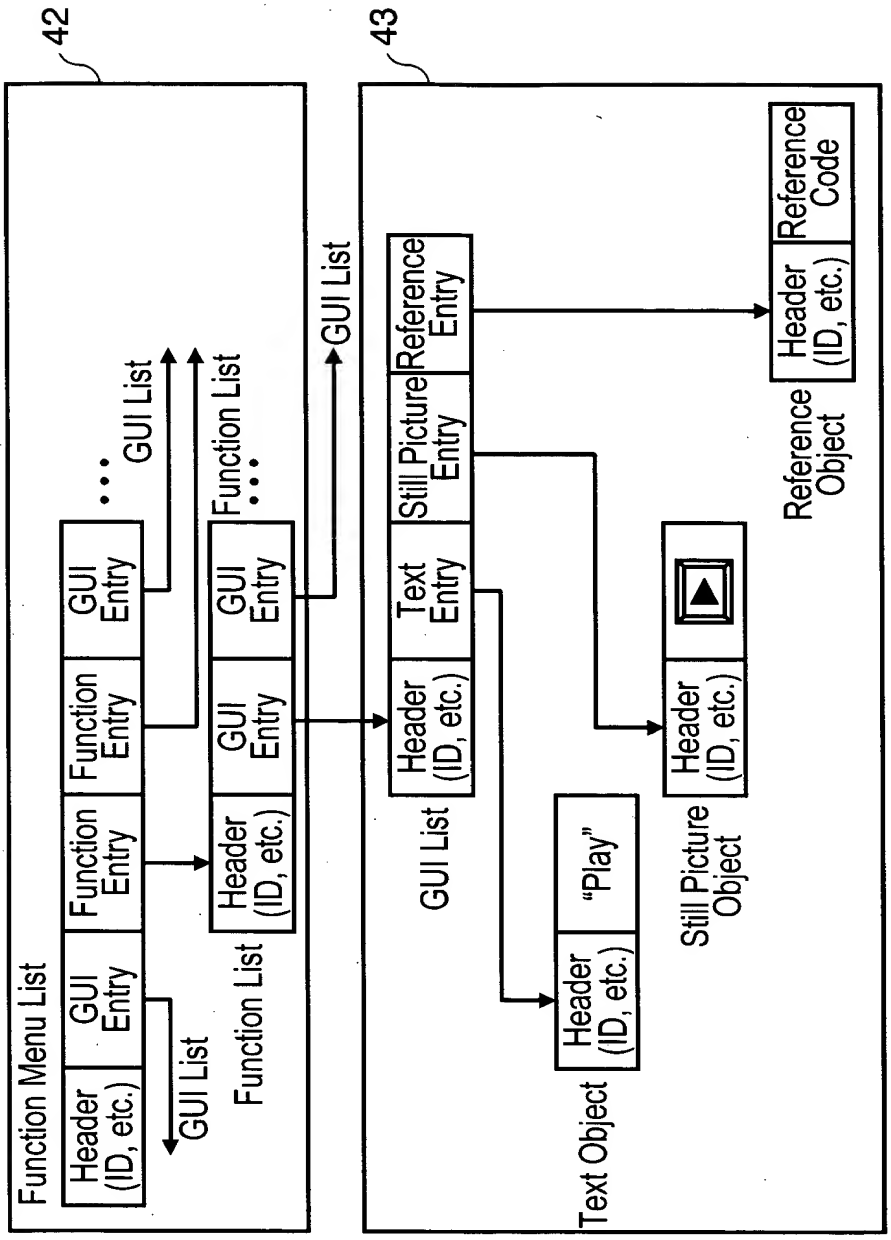

42
43
Function Menu List
Header (ID, etc.)
GUI Entry
Function Entry
Function Entry
GUI Entry
GUI List
Function List
Header (ID, etc.)
GUI Entry
Function List
GUI List
GUI List
Header (ID, etc.)
Text Entry
Still Picture Entry
Reference Entry
Header (ID, etc.)
"Play"
Header (ID, etc.)
Header (ID, etc.)
Reference Code
Text Object
Still Picture Object
Reference Object

FIG. 10

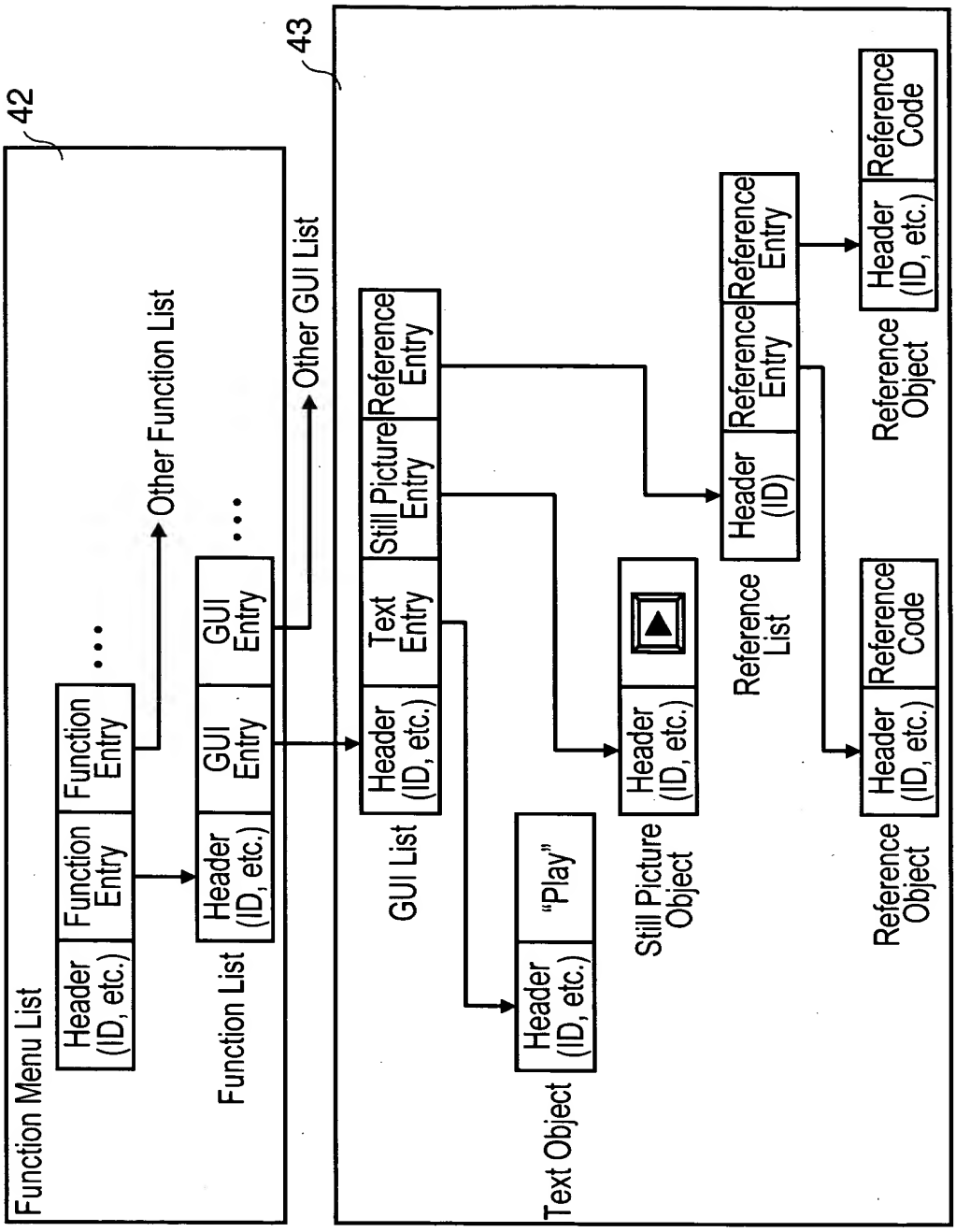

42
Function Menu List
Header (ID, etc.)
Function Entry
Function Entry
...
Function List
Header (ID, etc.)
GUI Entry
GUI Entry
...
Other Function List
Other GUI List
43
GUI List
Header (ID, etc.)
Text Entry
Still Picture Entry
Reference Entry
Text Object
Header (ID, etc.)
"Play"
Still Picture Object
Header (ID, etc.)
Reference List
Header (ID)
Reference Entry
Reference Entry
Reference Object
Header (ID, etc.)
Reference Code
Reference Object
Header (ID, etc.)
Reference Code

FIG. 11

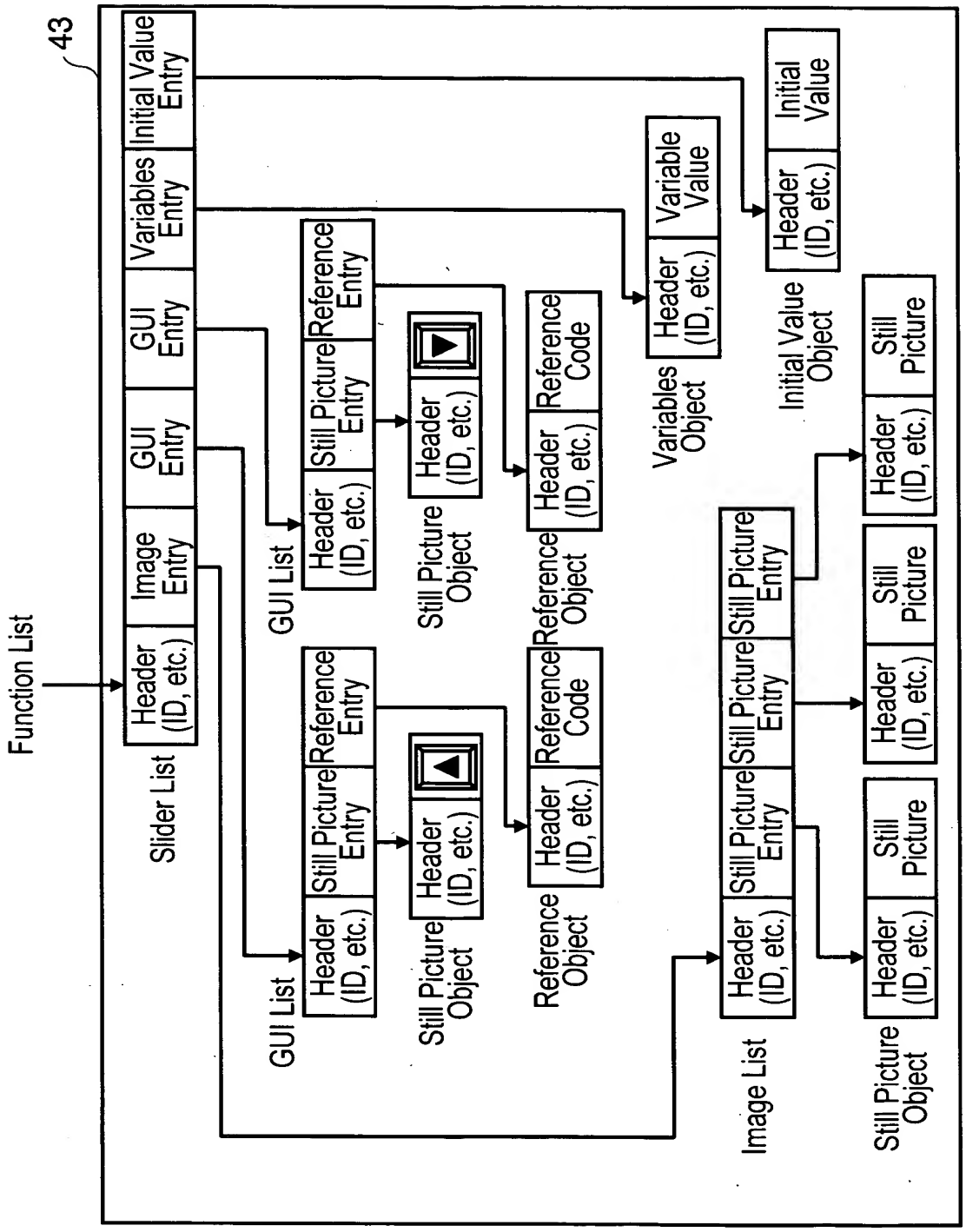

43
Function List
Header (ID, etc.)
Image Entry
GUI Entry
GUI Entry
Variables Entry
Initial Value Entry
Slider List
GUI List
Header (ID, etc.)
Still Picture Entry
Reference Entry
Still Picture Object
Header (ID, etc.)
Reference Object
Header (ID, etc.)
Reference Code
Variables Object
Header (ID, etc.)
Variable Value
Initial Value Object
Header (ID, etc.)
Initial Value
GUI List
Header (ID, etc.)
Still Picture Entry
Reference Entry
Still Picture Object
Header (ID, etc.)
Reference Object
Header (ID, etc.)
Reference Code
Image List
Header (ID, etc.)
Still Picture Entry
Still Picture Entry
Still Picture Object
Header (ID, etc.)
Still Picture
Header (ID, etc.)
Still Picture
Header (ID, etc.)
Still Picture

FIG. 12

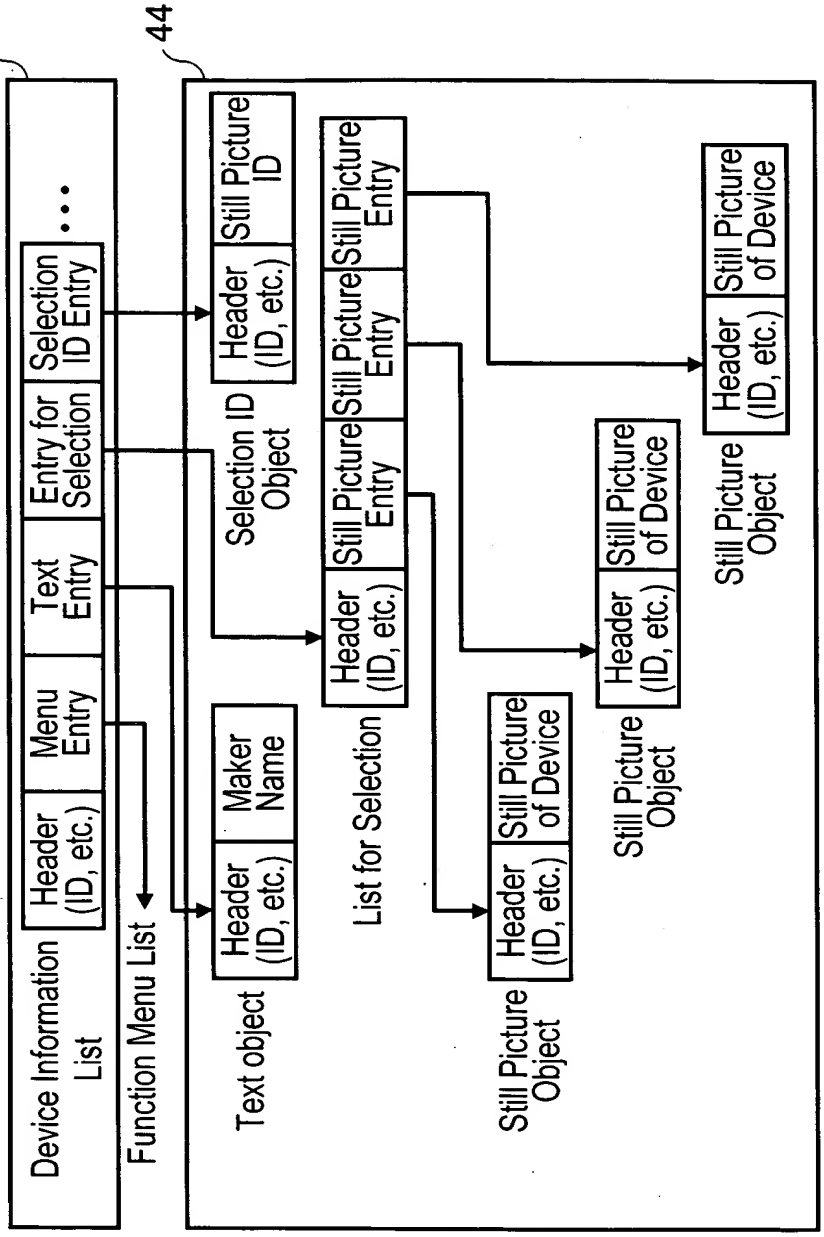

41
44
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Entry for Selection
Selection ID Entry
...
Function Menu List
Text object
Header (ID, etc.)
Maker Name
Selection ID Object
Header (ID, etc.)
Still Picture ID
List for Selection
Header (ID, etc.)
Still Picture Entry
Still Picture Entry
Still Picture Entry
Still Picture Object
Header (ID, etc.)
Still Picture of Device
Still Picture Object
Header (ID, etc.)
Still Picture of Device
Still Picture Object
Header (ID, etc.)
Still Picture of Device

FIG. 13

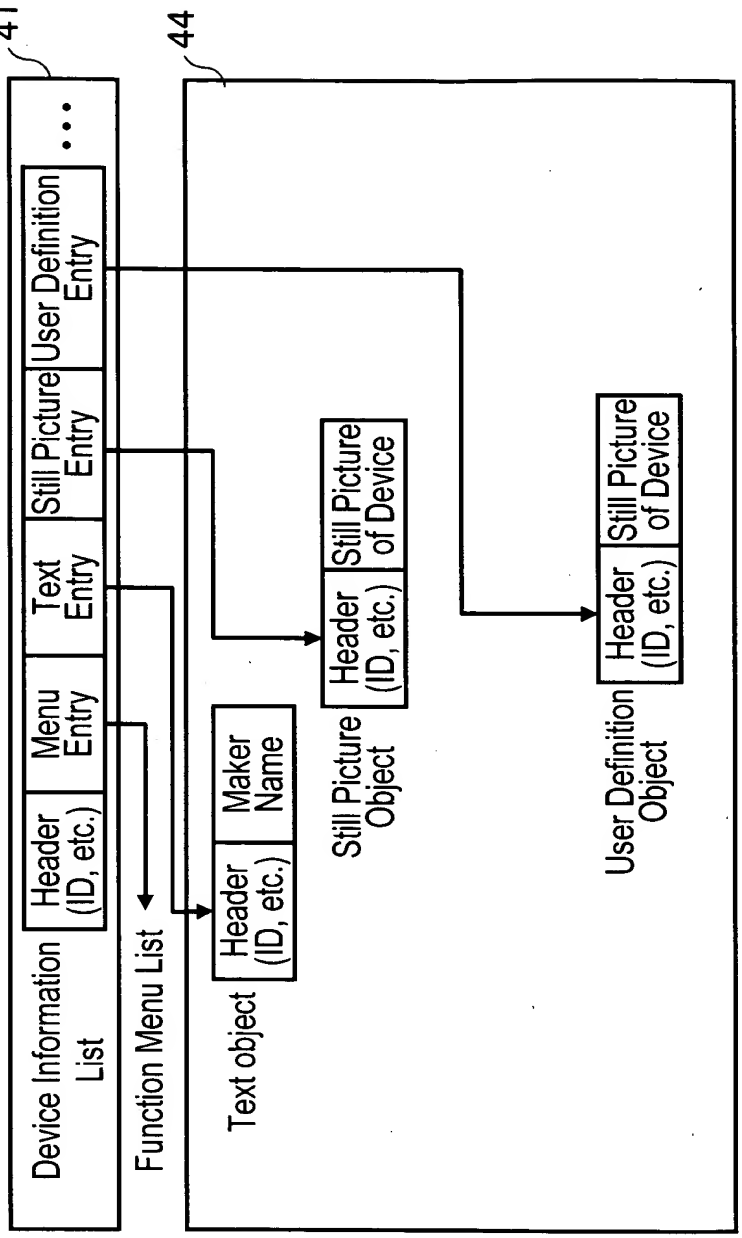

41
44
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Still Picture Entry
User Definition Entry
...
Function Menu List
Text object
Header (ID, etc.)
Maker Name
Still Picture Object
Header (ID, etc.)
Still Picture of Device
User Definition Object
Header (ID, etc.)
Still Picture of Device

FIG. 14

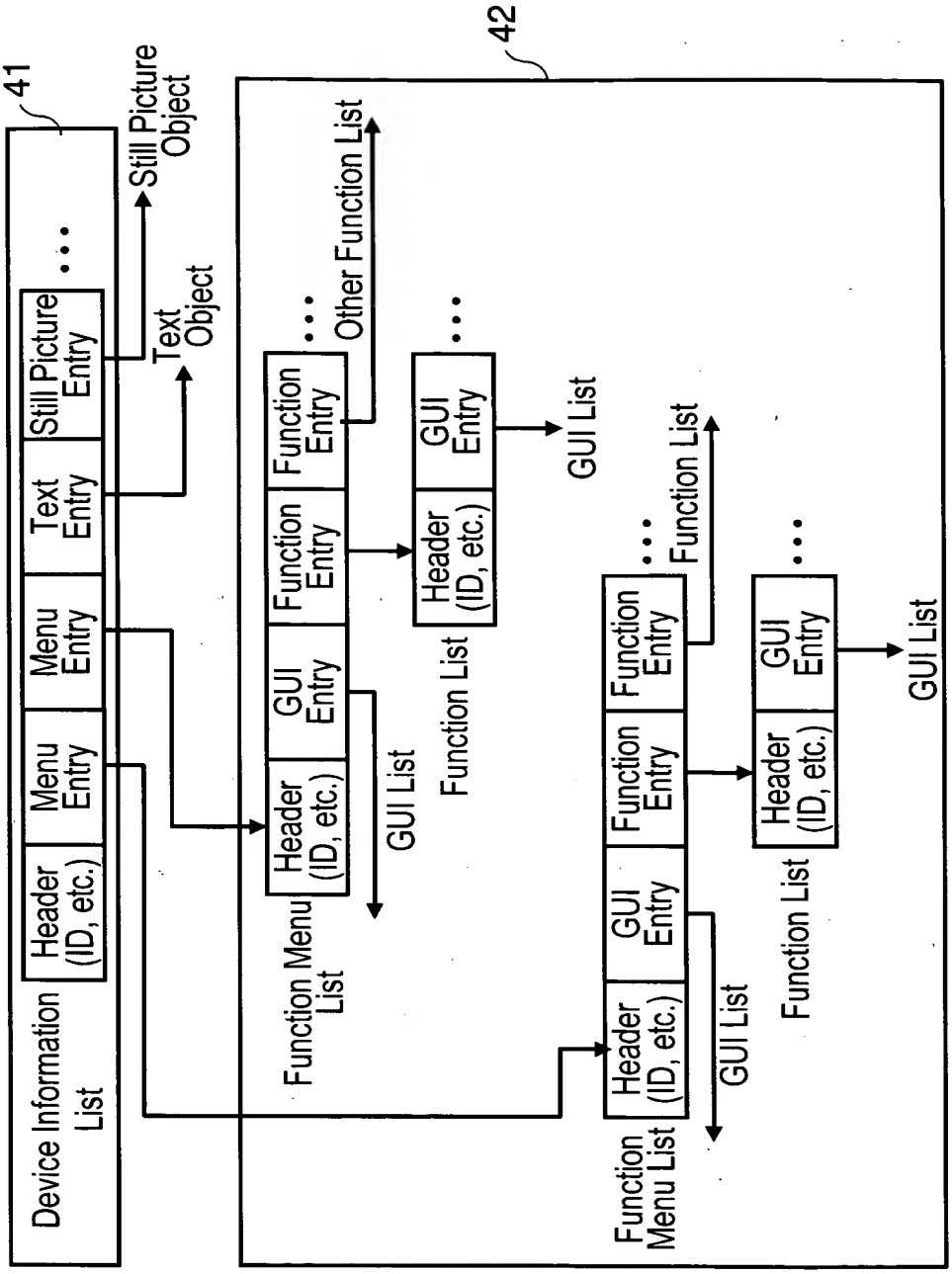
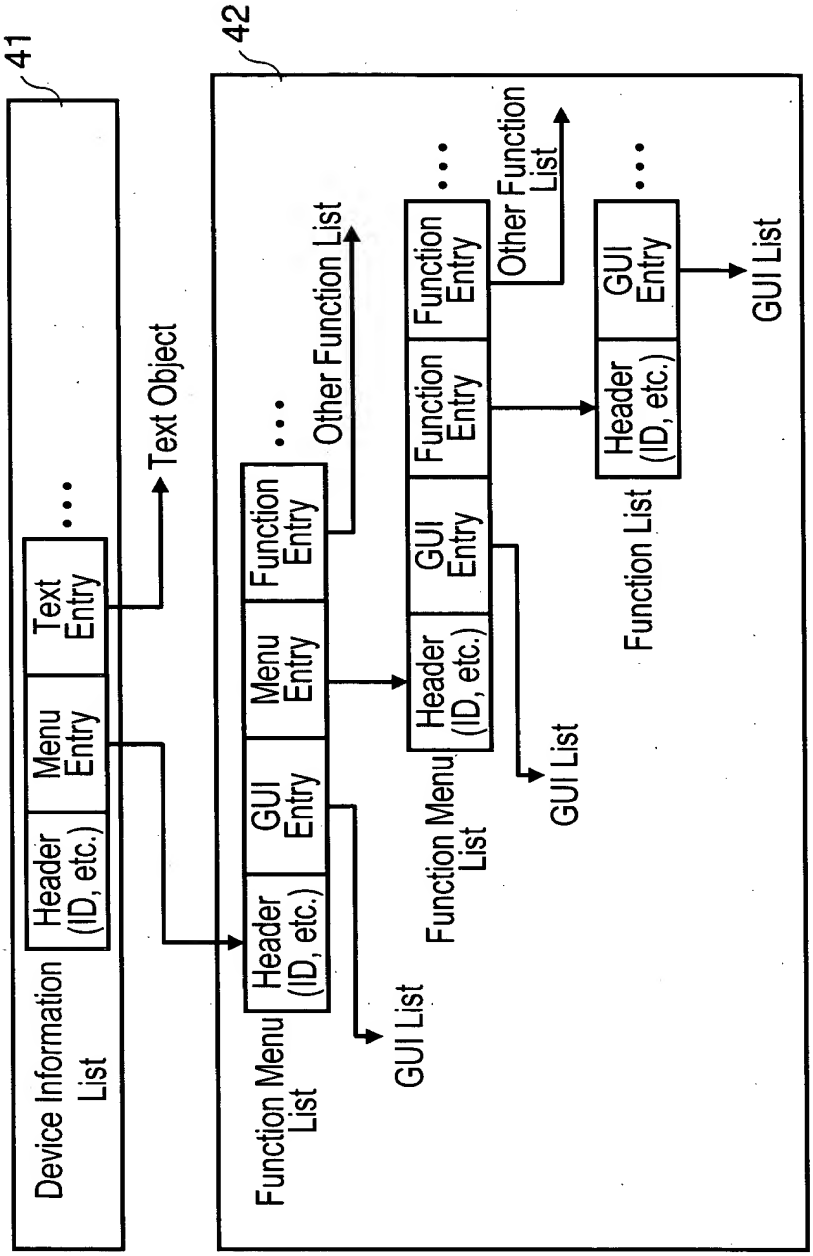

41
Device Information List
Header (ID, etc.)
Menu Entry
Menu Entry
Text Entry
Still Picture Entry
...
Still Picture Object
Text Object
42
Function Menu List
Header (ID, etc.)
GUI Entry
Function Entry
Function Entry
...
Other Function List
GUI List
Function List
Header (ID, etc.)
GUI Entry
...
GUI List
Function Menu List
Header (ID, etc.)
GUI Entry
Function Entry
Function Entry
...
Function List
GUI List
Function List
Header (ID, etc.)
GUI Entry
...
GUI List

FIG. 15


41
Device Information List
Header (ID, etc.)
Menu Entry
Text Entry
Text Object
42
Function Menu List
Header (ID, etc.)
GUI Entry
Menu Entry
Function Entry
GUI List
Other Function List
Function Menu List
Header (ID, etc.)
GUI Entry
Function Entry
Function Entry
GUI List
Other Function List
Function List
Header (ID, etc.)
GUI Entry
GUI List

Reference Numerals

1 Transmission Line
2 Packet Transmitting/Receiving Means
3 Synchronous Data Transmitting/Receiving Means
4 Device Signal Processing Means
5 Asynchronous Data Transmitting/Receiving Means
6 Device Asynchronous Data Processing Means
7 Equipment Configuration Information
8 Function Information
9 Equipment Internals Controlling Means
10 Controller Signal Processing Means
11 Controller Asynchronous Data Processing Means
12 Function Information Managing Means
13 Function Data Base
14 Display/Equipment Function Selecting Means
15 ROM
16 RAM
17 Function Information Contents Managing Means
21 Television Receiver
22 Remote Controller for Television Receiver
23 Personal Computer (PC)
31 DVD
32 Video Cassette Recorder (DVC)
33 Video Cassette Recorder (DVHS)
34 Digital Movie (DVC Movie)
35 Set Top Box (STB)
41 Device Information Layer
42 Function Information Layer
43 Function GUI Layer
44 Device GUI Layer

09423243 - 090599